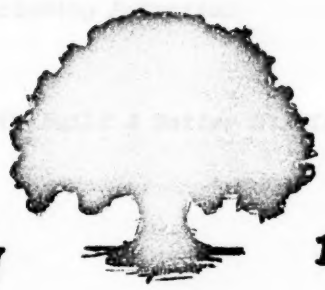
The Social Science Bulletin



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UMI

Opportunities and Problems in Interdisciplinary Research

by

A. Alexander Fanelli[1]

At the outset it must be understood that there is nothing wrong with *intra*-disciplinary research. I think we are aware of the fact that it is not only perfectly *legitimate* but very often *necessary* to investigate certain problems *within* the confines of a particular discipline such as economics, political science, or sociology. This means that the theoretical framework, the concepts, the kinds of variables used, the phenomena to be observed, and often the methods used to obtain and analyze these data -- that all of these are more or less predetermined by the framework of the discipline.

On the other hand, I think we would agree that the disciplines themselves are merely different ways of slicing up and looking at human behavior and that as practitioners of various disciplines we actually *abstract out* of the total situation or mass of social phenomena those aspects which, for one reason or another, we are motivated to study.

It should not seem too far-fetched then to believe that there are kinds of questions we might want to ask about human behavior which would require both *in the formulation of the questions themselves* and in the concepts and methods used in answering the questions, a simultaneous consideration of the theoretical and methodological frameworks of two or more disciplines.

You will note that I have included here the *formulation* of the problem as an important aspect of an interdisciplinary approach. I think this is particularly important. On the wall beside my desk I have a little quotation pinned up. It reads as follows:

> The formulation of a problem is often more essential than its solution, which may be merely a matter of mathematical or experimental skill. To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and makes a real advance in science.

"To raise new questions, new possibilities, to regard old problems from a new angle..." these, it seems to me, are the most fruitful opportunities in interdisciplinary research.

Let us take, as an example, the question of cooperatively creative social behavior in a community. We have all observed, I am sure, that in any given community there are groups of people who actively attack community problems, who search for solutions to such common problems and who initiate and carry through action-steps implementing certain programs or suggested solutions. For convenience, we might call these people the "movers and the shakers!"

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[1] Mr. Fanelli is on the staff of the Social Science Research Center.

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Now, the question may arise, why is it that *these particular people* are the "movers and the shakers" and what is the nature of the process by which they operate? Why is it that in some communities the process goes on at relatively rapid pace whereas other communities appear to be characterized by a certain lethargy or passivity in this respect?

The answers to such questions might be (and, in the past, often have been) sought *within* the theoretical confines of a particular discipline. For example, a psychological approach might be directed at discovering the *personality characteristics* of the "movers and the shakers," and attempting to answer the question in these terms.

As a matter of fact this is precisely what happened when this question was attacked recently by a group at Cornell despite the fact that the question itself had originally been formulated in a relatively interdisciplinary frame of reference. The original problem for investigation was "the conditions which enable group members to work together creatively." It may be instructive to examine, for a moment, the words of the director of that particular research program with respect to this point: "In spite of this broad formulation," he states, "the problem was originally seen almost entirely in terms of individual psychology, i. e. the characteristics of the socially-creative personality." Consequently, the original pilots studies were conducted in the traditional approach of individual psychological testing and case history interview. The subjects were adults and adolescents identified by acquaintances as outstanding in their contribution to creative group achievement. They were selected from recreational clubs, schools, churches, and cooperative living units.

The real shock came when the results of a blind analysis of the individual projective tests came in. Briefly, the major finding was that the subjects came out as "poorly adjusted persons, sorely beset by conflicts, experiencing difficulty in social relationships." It was at this point that the researchers began to realize the inadequacies of their individual psychological orientation for answering the original problem. Again, in the words of the research director: "...the case studies demonstrated not merely in abstract theory, but in terms of concrete observations, that in dealing with problems of constructive behavior, we would have to take into account the interplay between person and situation." We should note particularly that the *situational* aspects of this interaction lie ordinarily in the traditional province of the sociologist, anthropologist, political scientist and economist. Later, in describing some aspects of the *situation* the research director states: "...the processes leading to group formation, participation and functioning became intelligible only when analyzed within the matrix of the overall social structure of the community itself." So their research plan was broadened to include a careful sociological community survey as an integral part of the overall research design.

Another type of approach to the question of interdisciplinary research in the social sciences may be seen in the program now under way at the University of Michigan under the title of the Detroit Area Study. I regret that we don't have time to go into detail on this rather unique program, but I think it would

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be worthwhile to mention briefly some of its main features. According to its director, the integrating element of the study from year to year is the accumulation of social data *for a particular community,* rather than a particular problem. The problems for study are selected each year from those submitted by members of the entire social science faculty. In 1951 the project was focused on participation in community affairs with particular reference to informal organizations and political activity. Faculty participation was from *sociology* and *political science.* In 1952 research was focused on certain aspects of the family in a metropolis, and faculty participation was from *sociology* and *psychology.* An annual sample interview study of a cross-section of the Detroit metropolitan area is used to secure the necessary date for these projects.

Evidently what we have here is an approach similar to that discussed earlier by Dr. Payne in which the community is seen as the "arena" of social behavior. What may not be so evident from this brief description is the fact that much of this research is truly interdisciplinary in character -- i.e. that cross-fertilization of theory occurs in the actual formulation of hypotheses to be tested.

This brings us to a consideration of some problems of interdisciplinary research. The first problem might be called the problem of *level of integration* and it is directly related to the point just made about the Detroit Area Study.

Briefly, this problem centers around the question of what level of integration is conceived to be desirable among the practitioners from various disciplines in any given interdisciplinary project. For example, in the case of the Detroit Area Study, it is conceivable that the annual projects might be "interdisciplinary" only at the operational level. By this I mean that while, say, Sociology and Political Science participated in a project, such participation would be entirely limited to the data-collecting aspects of the study. Using the same cross-section sample, interview schedule, field force, coding staff, etc., data might be collected simultaneously on participation in formal organizations and on political activity. But once this phase of the operation had been completed the "loot" might be divided up and analyzed separately by the two departments concerned.

This would, of course, be a completely legitimate and often useful procedure, and it would be considerably more efficient, in some respects, than much of the duplication of effort which goes on every day in social science research. But as "interdisciplinary research" it would be on a very different level than research in which cooperation and interaction among the various practitioners was fundamental in both the planning and analysis stages, (as well as the operational stage) and where the theoretical frameworks of the disciplines had been employed in the formulation of the problem and in the development of relevant hypotheses.

There is another level of integration intermediate to the two mentioned above. This would be the case when there was true interdisciplinary effort

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in both the operational and analysis stages but *not* in the formulation and planning stage. Conceivably, after cooperating at the operational level in a particular study, researchers from various disciplines might see relationships among the various sets of data which it would be fruitful to analyze further. It would seem likely, however, that in such cases the analysis would have to be considerably more tentative and limited in its generalizations than if the study had been specifically designed to explore certain definite hypothetical relationships in these data.

I do not want to imply that one or the other of these "levels of integration" is somehow "best" in any absolute sense. I think the selection of the level on which any particular piece of interdisciplinary research is going to be conducted must be determined by a number of factors such as the administrative structure of the research institution, the experience and attitudes of the research personnel, financing considerations, the size of the research staff, and the nature of the problem or problems under investigation. All of these factors would seem to be specific to certain situations and thus it would be foolish to attempt to make any generalizations concerning them. Despite this rather elaborate disclaimer, however, I think we might find fairly general agreement that in the Never-neverland of "all-other things-being-equal", it is the level in which interdisciplinary effort occurs in *all phases of the project* that promises to be most productive in terms of an advancement of our knowledge about human behavior.

This problem of levels of interdisciplinary research recently came up for us at the Social Science Research Center in a very real way in connection with a projected case study of local action in Mississippi communities. In the course of discussions about the research design it occurred to us that much of the data we were planning to collect paralleled data that appeared to be relevant in some projected studies by members of the Business Research Station Staff. Consequently we met with these researchers and discussed with them the possibilities of interdisciplinary activity. In the course of our conferences we seemed to run the gamut from a single jointly-planned and executed study to two distinct studies with integration at the operational level only. Adding to much of the confusion in these conferences, it seems to me in retrospect, was the fact that at any particular moment we were never very clear about what level of integration we were discussing. I think that this failure to make clear what seem to me to be rather basic distinctions in levels of interdisciplinary research contributed a good deal to the essentially inconclusive outcome of the conferences though there were certainly a number of other factors which were important.

This example, which involved what we might call a breakdown or malfunctioning of the communication process, brings us to a consideration of some other problems likely to be encountered in interdisciplinary research. It will be seen that most of these involve in one way or another the expectations of the various researchers or the process of communication between them. For first-hand information about these problems we are indebted to the previously mentioned Cornell group the members of which were thoughtful enough to sit

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down after a year of interdisciplinary activity and record some of the "growing pains" which their particular project had gone through. To save time I shall merely present these problems as briefly as possible and then perhaps you may want to explore some of them more fully in the discussion period. It should be stated that some of these problems may be peculiar to the Cornell situation -- others may have more general application.

1. COOPERATION AS AN END IN ITSELF: Apparently the practitioners of the various disciplines in this project felt under some *compulsion* to accept each others' point of view, to hear everybody out and to approve and incorporate *all* ideas. They were apparently so self-conscious of the fact that this was to be an *interdisciplinary* project that the discussion and the field of inquiry grew and grew without limit. After sitting in on some of the planning conferences a perceptive visitor told them; "Your major problem as a team is to decide that there are some things in which you are *not* interested."

2. SELF VS. OTHER-DEPENDENCE: This problem is related to the above. It centers around the assumption on the part of many of the researchers that it would somehow be "presumptuous" or "undemocratic" for a team member to propose an idea which affected the whole group. By witholding all ideas which were likely to lead to conflict they went on for some time with a kind of spurious harmony. But in many cases apparently this was at the expense of avoiding the real problems confronting them.

3. OVER-RELIANCE ON GROUP ACTIVITY: This is really a complementary aspect of the above problem. They noticed the development of a tendency to assume that all phases of research activity had to be shared by all members of the team. One of the researchers' comments on this point was: "We spent too much energy interacting and not enough thinking."

4. THEORY IN A VACUUM: This problem centers around the fact that while most of the researchers felt that they could discuss theories in areas other than their own, they shied away from methods and design, measurement techniques, and other methodological aspects with which they felt unfamiliar.

5. ONE LANGUAGE, MANY MEANINGS: This is the familiar communication problem of semantics. They talked glibly to each other for three months before they realized that when someone used the term "personality" it actually meant *six* quite different things to various members of the group. Some of us noted this same problem in connection with our talks with the BRS people. I think it is quite likely, for example, that the term "community" meant quite different things for us than it did for them -- and I am pretty sure that when we come to analyze it, it will have somewhat different meanings for members of our own staff.

6. PREMATURE OPERATIONALISM: This problem was an outgrowth of the above semantic difficulty. In an effort to escape from the ambiguities of language they rushed to the opposite extreme and spent a great deal of time

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trying to devise operational definitions for such concepts as "sentiment", "relationship", "constructive act". They finally came to the conclusion that this kind of operationalism was premature.

The director of the Cornell program in commenting on the above problems points out the important fact that all of them may be seen as deriving from a single more general problem which he describes as "the lack of a concrete focus outside (the group) which could free the individual team member to express his convictions, propose courses of action, and engage in a job of work." He noted that a variety of activities might have provided such an external focus, but that in their case it was finally furnished by agreement on specific phenomena to be investigated and explained followed by immediate empirical investigations which, though crude and incomplete, "served to give limit, give direction, and new impetus" to the research activities and discussions. He concludes that "...a decision on a concrete objective may help prevent over-incubation, for without an external focus of this kind, means are likely to become ends in themselves and the research team becomes bogged down in problems of process, terminology, and over-extension of interest." I am sure that some of us at the Social Science Research Center who have been trying in past months to integrate the approaches of sociology, political science and social psychology in a single study, are acutely aware of this problem of over-incubation. There is an almost painful silence at times now when we are confronted with the task of integrating theoretical frameworks and relating various concepts -- most of us, I think, would be quite happy to go out and search for an empirical suit of clothes to drape on our theoretical skeleton. The resulting scarecrow might frighten us a little, but at least we might be able to see whether any major surgery had to be performed.

One other problem which was not touched on by the Cornell group should perhaps be mentioned here. This is the somewhat delicate question of administrative barriers to interdisciplinary research. It is true, I believe, that the people who are beginning to see the need for interdisciplinary research in the social sciences are more likely to be those actively engaged in research rather than those in administrative positions in the various departments of academic or other institutions. It is the latter, however, who are ordinarily in positions of control with respect to policy decisions necessary to initiate and implement a program of interdisciplinary research. Thus we are likely to have a situation in which one group of people perceive the need for this type of research in order to discover meaningful answers to significant questions while another group of people with a good deal of control over the direction and nature of research either may fail to see the need for interdisciplinary activity or may actually perceive it as some kind of threat to their departmental or divisional autonomy. And in a certain sense their perceptions may be fairly accurate on this last point. Almost any kind of real interdisciplinary activity is probably going to involve some mutual concessions with respect to such things as publication rights, budget and personnel considerations, and broad research objectives of the departments concerned. Unlike the patent medicine which was advertised as doing "all the work of calomel without the dangers of calomel" interdisciplinary research, I am afraid, will always involve a certain amount of "give" as well as "take." How to restructure the perceptions of administrators (and even researchers) so that they will come to feel that in some cases, at leat, the "take" is worth the "give" is a problem for which I have no immediate solution.

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In conclusion I think we should note that these problems we have mentioned --problems of administrative barriers, communication and expectations, and levels of integration -- by no means represent all the problems of interdisciplinary research. Many of you can think of a number of others which may be equally important. At the same time, I don't think that the fact that these problems exist should divert us from attempts at interdisciplinary research in the social sciences when we feel that such research is called for to help us find the answers to important questions.

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MISSISSIPPI'S MANUFACTURING POTENTIAL

by

H. P. Todd[1]

In 1889 Henry W. Grady told the story of a "one-gallus" Georgian whose funeral he attended: "They cut through the solid marble to make his grave, and yet a little tombstone they put above him was from Vermont. They buried him in the heart of a pine forest, and yet the pine coffin was imported from Cincinnati. They buried him within touch of an iron mine, and yet the nails in his coffin and the iron in the shovel that dug his grave were imported from Pittsburgh. They buried him by the side of the best sheep-grazing country on earth and yet the wool in the coffin bands and the coffin bands themselves were brought from the North. They buried him in a New York coat and a pair of Boston shoes and a pair of breeches from Chicago and a shirt from Cincinnati. The South didn't furnish a thing on earth for that funeral but the corpse and the hole in the ground."

Henry Grady would be delighted with the South as it is developing today.

In the Southern region, from Virginia to Texas, the changing pattern of employment is indicated by a single statistic: in 1950 only 21.4 percent of the workers were on farms. About 3-1/8 million were in agriculture, over 3-1/3 million in manufactures, and nearly 8 million in other occupations and professions. Thus the South approaches the occupational distribution of the workers that is characteristic of highly industrialized regions.

Mississippi is not yet so far advanced in industrialization. But by 1950 only 42.1 percent of the workers were in agriculture. In the 1940's farm workers decreased 118,209. Domestic servants also decreased, by 13,050. But workers in forestry, fisheries, and mining increased 2,124, manufacturing workers increased 23,728, and all others increased 95,008. In the last three years these trends have continued.

In the 1940's, 131,000 new nonfarm jobs were needed for those leaving agriculture and domestic service. In addition, an estimated 174,000 of those who came of working age desired jobs. We needed 305,000 new jobs but fell short of that by 185,000. If we had made 185,000 more jobs in the ten years, our economy would be enriched by probably a half billion dollars, year after year. It would have taken a yearly average of about 225 additional jobs per county to have created 185,000 more new jobs. The 185,000 workers, mostly in the younger ages, emigrated, to produce a half billion dollars a year for the economy of other states. Including their families, over 400,000 people left our state; and the Bureau of the Census estimates that in the last three years we have continued to lose population.

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[1] Mr. Todd is a member of the agricultural economics staff of the Mississippi Agricultural Extension Service. This paper was delivered at the West Point Community Forum on April 28, 1953.

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Can we make jobs for the people we rear here? If so, how?

It is well established, and logically it must be true, that when manufacturing increases in an area, there are increases in construction, transportation, communications, trade, finance, insurance, real estate, repair services, personal services except domestic, entertainment and recreation, professional and technical services, and public administration. Furthermore, every factory uses the products of other factories and factories such as those processing dairy products or broilers generate more local production of raw materials. It is also true that in the process of industrialization, farmers substitute, for scarce and high-cost labor, not only more skills and better management, but also manufactured products like mixed feeds, fertilizers, insecticides, machinery, and fuel oils and electricity for power. The better use of all resources brings higher production and incomes, and more demand for goods and services. In all these interrelated ways it comes about that for each additional person employed in manufacturing there may be three or four more employed in the accessory and service occupations and professions.

If we would create an expanding economy that will employ our workers, we have primary interest in manufacturing. For, as we said, manufacturing is a great generator of other employment and the better use of all our resources. What, then, is the potential of manufacturing in Mississippi?

The sources of information for this study are too numerous to name all, but three should have special acknowledgement: "The Directory of Mississippi Manufacturers" in 1949 by Prof. David McKinney; "The Mississippi Business Review", monthly by the School of Business and Industry at State College; and the noted book, "Why Industry Moves South."

The economic location of factories depends on taxes, freight rates, transportation facilities, climate, community services, the attitude and character of the people, and especially on a supply and the reasonable cost of materials, power, and labor, and on access to markets. Improvements in any of these factors, or in any segment of the economy of the trade area, create manufacturing opportunities. The success of manufacturing enterprises depends on a complex of factors, but supremely on the use of science and technology in the design and equipment of factories and in every stage of the manufacturing process to final marketing of products.

A century and a half ago the steam engine, textile machinery, and the cotton gin brought the Industrial Revolution. That made Mississippi a great state in the production of cotton, then of lumber, but not in manufacturing beyond the primary processing of raw materials. Now we are in the time of the Technological Revolution. That is the dynamic factor that is giving us new possibilities in manufacturing.

From such considerations we judge the potential of manufacturing in Mississippi. If we do not have or cannot produce sufficient raw materials, they are available in near-by states. We have excellent low-cost transportation. We have in the United States and especially in the South the fastest growing markets on earth. We have adequate low-cost power or can generate it from

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natural gas. We have the labor. The other factors are under our control, being matters of education, culture, research, organized effort, management, good government, community improvement, conservation, development of the renewable resources in which we are rich, and in all things the use of science and technology.

We cannot here discuss all the factors. Chiefly, we shall try to judge our potentials in manufacturing by what we already do and by the practical possibilities opened up for us by science and technology.

Of about 100,000 workers in manufacturing now, the largest part are employed in making the products of wood. Lumber is about 40 percent of the tree--it would not pay to ship the tree. We do most of the manufacturing of wood products near where the timber grows. Besides lumber and millwork, we make veneer, plywood, cooperage products, pulp including dissolving pulp, kraft paper, paper bags, paperboard, hardboards of several kinds, toys, golf sticks, wooden parts for textile machinery and skis, tool handles, furniture for home and office, fixtures and cabinets of many kinds, toilet seats, picture frames, crates, cartons, boxes, crossties, creosoted fence posts and telephone poles, prefabricated houses, naval stores, and several kinds of wood chemicals. We can have factories that will make rayon, cellophane, newsprint, and film, and use waste liquids from pulping mills to make valuable chemicals. Research is finding new uses for our hardwoods. Research in lignin, a part of wood the chemists do not yet understand well, may soon bring a vast new chemical and plastics industry.

Forty-odd thousand are employed by plants making the products of wood. Over 54 percent of our land, or 16.5 million acres, is in timber. Foresters say that with enough good forestry our timber output can be multiplied by three. From employment records of companies that have done good forestry over a period of years, we know that, with maximum utilization of the timber, including foresters, there is an employee for each 60 or 80 acres. It is conservative to say that timber can directly employ another 100,000 persons, if we do good forestry. The markets and the factories we may be sure of if we grow the timber.

However, we should mention that since, for example, to make a pound of rayon requires 2,000 gallons of water, the potential in wood manufacturing, as in many other things, depends on water conservation. But good forestry promotes water conservation.

We gin and compress cotton, we have cottonseed and soybean oil mills. We have also a few cotton mills that employ 5,600 persons, and these may expand; one is expanding now its capacity for synthetic textiles. But the cotton mill business is largely pre-empted by states east of us. Furthermore, our cotton and all its products may, in too exclusive reliance upon high-price supports and regimentation, continue to price themselves out of the markets. The South has a market for 3,500,000 bales less than 25 or even 40 years ago. It may be that as cotton production shifts elsewhere in the world the manufacture

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of cotton textiles will also shift to the same regions, just as gins, compresses, and oil mills have already done.

The manufacture of rayon, acetate, nylon, and the newer synthetics, and still others to come from the laboratories, is a better opportunity. A new rayon mill near Mobile uses pulp from the International Paper Company mill at Natchez, caustic soda and other chemicals from near-by sources, and sulphuric acid from Baton Rouge. There is a new acrilan plant at Decatur, Alabama, and a new nylon plant near Pensacola. Tennessee and South Carolina each has several synthetic fiber plants. We can have them as well, with use of some of their products by our textile mills.

Almost every kind of clothing is made in Mississippi factories, with 18,500 workers. Other factories make such textile products as awnings, tents, tarpaulins, seat covers, draperies, and parachutes, and will make carpets and burlap base for carpets. These industries should have a gradual expansion.

Food and beverage plants employ over 10,000 workers. They should grow with population and urbanization in our trade territory, and with any increase in the production of grain, sweetpotatoes, vegetables, vegetable oils, meats, seafoods, poultry, milk, and fruits, for processing. Now that we grow rice the first steps have been taken toward two rice mills. Meat packing plants are growing with livestock production. Within four years we have come to produce 33 million broilers a year, and this was made possible by processing plants and by improvement in manufactured poultry feeds.

We also manufacture dog and cat foods and livestock and poultry feeds.

Food, feed, and beverage plants have a large potential for growth. But we had better expect upsets. The Borden plant at Macon, no longer processing milk because of the dwindling milk supply, is making instant coffee. A modern gristmill enriches meal with vitamins and minerals; soon it may be giving meal a higher protein value by reenforcing it with two amino acids, lysine and tryptophan. Already, poultry feeds include not only vitamins and antibiotics but the amino acid methionine, all of which are made in factories. Many other examples of rapid change in foods, feeds, and beverages come to mind. But in the language of the chairman of Consolidated Grocers, "The most dramatic changes in food production are yet to come, and we expect them to come fast."

In 1949 we had 111 plants making chemical products, including 11 making wood chemicals already mentioned. Now we have others; and the year 1953 will see the building of chemical plants costing $35 million. Already these plants employ 6,800, soon they will employ twice as many. Fertilizers, pesticides, vegetable oils and their products, drugs, paints, the products of petroleum, and many others are important. A plant at Columbus will use salt as a basic material. We may soon have a plant making sulphuric acid from sulphur of our own mining. We hope for more oil and natural gas for chemical industries, especially now in Northeast Mississippi.

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Research will no doubt discover other basic materials for chemical industries. We do not have enough chemists and chemical engineers, or enough research; we do not know enough about what we have.

Neither do we have enough general knowledge of chemistry to appreciate our very great possibilities in chemical manufactures. But we do know that from pine knots, stumps, and sawdust several dozen useful chemicals are made; that corn cobs and oat hulls are used at Memphis to make furfural, an ingredient of nylon and other products; that we make nitrogen fertilizers from air, natural gas, and water; that the great petrochemical plants turn out scores of products that enter into the making of thousands of other products. We know there are innumerable possible combinations of the hydrocarbon molecules, cheaply obtained from natural gas or cellulose, and, therefore, countless other fibers, rubbers, plastics, insecticides, drugs, feeds, and foods may be made from them. Other compounds, the silicones and alloy metals for example, can make countless other new things. Chemicals are used by all 72 classes of industries.

Surprisingly, fifth in number employed is the manufacture of transportation equipment. It employs 6,100 now. These plants make wagons, truck bodies, trailers, busses, ships, barges, boats, bicycles, and motorcycles.

About 3,500 workers make other products largely metal. These include parts for great steam boilers, power lawnmowers, sheet metal, steel shapes, tools and many kinds of hardware, several kinds of farm machinery, earth moving machinery, road building machinery, lifting and loading machines, structural steel and welded sections of great steel bridges, steel casement windows, steel pipes, aluminum pipes, tanks of many kinds and sizes, drums, gutters and downspouts, traps, decoys, heavy towing tractors, sawmill machinery in a large way, hydraulic pumps, logging machinery, motors, compressors, and caskets. A new factory at Laurel will make aluminum vessels for the dairy trade, one at Gulfport will make aluminum pipe for irrigation. A plant will make screw conveyors. Others make lighting fixtures including fluorescent lights, electronic testing machines, meters, storage batteries, and many power tools including woodworking machinery. Several other new factories of this class are to be established this year.

The metal fabricating industries, those making electrical appliances. and the like, will grow. Four states bordering Mississippi have huge plants making aluminum; the supply is at hand, the uses are multiplying. We are entering an age of new metals, powder metals, alloy metals, and improved metalworking processes that offer us great opportunities.

The South is the greatest producer of plastics. But we do little in plastics fabrications. Plastics is a great growth industry. Experts predict production of 25 billion pounds of plastics in the United States by 1975, five times as much as now.

We make levels, thermometers, lenses, dentures, artificial limbs; rubber tires, tubes, and other rubber products; asphalt tile flooring and

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roofing; shoes, sporting goods, zippers, auto tags, neon signs, brooms, mops, billfolds, handbags, saddles, collars and harness for work animals, and miscellaneous other sorts of factory products like tung oil.

In 1949 there were 135 plants with over 2,000 employees making stone, clay, and glass products. Since then we have the Marquette Cement Plant, a plant making bottles, and others in this field. We make concrete blocks, pipe, culverts, garden furniture, tile, flue blocks, well curbs, and mattresses for Mississippi river flood control. We make marble memorials and structural shapes. We make glass for fluorescent lamps, blttles, and jars; we make mirrors, but not the glass for mirrors. From clay we make pottery, brick, filtering compounds, and sewer pipe and other pipe. There are possibilities of growth in these industries.

The publishing and printing industry employs a few thousand, some in almost every county. This business will grow with the population and the economy.

The South uses twice as much steel as it makes. Mountains of high-grade ore will be brought from Venezuela. The distance is the same to our coast as to Philadelphia. Steel can be made by electrical process without use of coking coal. Furthermore, there is a new low-cost method of precision casting of iron by the shell-molding process, to make iron as strong and tough as ordinary steel; and this process can be used almost anywhere. We can have small iron and steel plants; we may have a great steel plant. Other plants would be built near by to supply any such plant, to fabricate the steel, and to supply the families of the factory and service workers. Such a development would not be more fantastic than the big change the technological revolution has already brought to Mississippi and the South.

Many factories have been doubled, some doubled several times, in the last few years. The Filtrol plant, established at Jackson in 1936, pays nearly ten times as much in taxes as the original cost. Much of our growth will be by expansion.

What we have enlarges our vision, expectations, and efforts. We are learning how to plan for sound enterprises and how to value resources like water, sawdust, and waste products that have polluted our streams. We are getting a supply of skilled and semi-skilled labor. We have the aid of experienced managers and technical men who came with their new plants. We are getting local investors, enterprisers, technicians, managers, industrial engineers, and industrial financiers. We are accumulating savings; and, like the whole South, we have a rating as one of the best places to invest capital. We are beginning to benefit by the enormous expansion of research in the South.

Mr. Houser, vice-chairman of Sears, Roebuck, says that in 1935 Sears could find less than $3 million worth of manufactured products to buy in Mississippi, but in 1951, $63 million worth. He asks for more. General Wood

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chairman of Sears, predicts that in a few decades the population of Texas will exceed that of New York State, and that political and economic power will pass from the Atlantic seaboard to the South and West. Nearly all the large corpo-- rations, and many smaller, have shown their confidence by their investments.. It is our good fortune that scores of the best of them are helping to build Mississippi.

The process of industrialization is cumulative, there is a multiplying effect. Factories call for other factories and for services, and these in turn for more factories. Progress brings more progress, provided we act with economic wisdom.

There has come to be a widespread belief that laws and price supports can maintain the markets and prices and the status quo. But carried too far they speed the development of substitutes and foreign production, and thus are self-defeating. Let us meet competition by higher productivity so that we may lower prices. That is the historic way of progress.

Our factories are the creation of science and technology. Through science and technology we have been able to increase productivity and lower costs, even the costs of what were luxuries, so as to have mass production and mass distribution of our products. Our future development can stem from the same source; that is why our potential is great.

Our salvation depends on alertness to change. Five years can bring change that a thousand years of the past did not bring. Butter gives way to margarine, ice cream to a substitute, soap to detergents. Mule muscle gives way to a tiny engine with a hundred or thousands of horsepower. Lifting by human arms and backs gives way to the crane, the fork lift truck, and the conveyor belt; the hand shovel to great earth-moving machines, the cradle to the combine; and Studebaker, from building wagons, changes to building automobiles and trucks. Seeing with the eye is supplemented by electronics, human controls by electronic controls. The hoe gives way to chemical weed control, hand picking to machine picking of cotton, and hand picking of bugs from tobacco leaves to machine spraying of insecticides. Silk, wool and cotton give way increasingly to synthetic fibers. Vanilla is not vanilla.

Let us keep abreast of science and technology. Better machines are coming --Mississippians are inventing some of them. We are finding out the chemistry of proteins and the human body, the chemistry the cow uses to make milk, the chemistry moulds use to make antibiotics, and more and more about the chemistry of photosynthesis. Already we are using, or duplicating, many of these processes in factories. Machines create isotopes, change one element to another, and have made new elements; they turn matter into energy; and a machine is being built now to turn energy into matter. Technology will harness atomic energy and still other energies to machines. With automatic computers and electronic controls and catalysts and other magic, factories produce miracles of production, and will produce other miracles.

Such is manufacturing now. Our share will be a function of our knowledge and appreciation of expanding science and technology, and the use we make of them.

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USING OUR RESOURCES TO BUILD A BETTER MISSISSIPPI

by

Lee B. Gaither[1]

Unlike most of our states in the Southeast, Mississippi has made greater social and economic progress in the last decade than the nation.

Value added by manufacturing increased 313 per cent in the period 1939-1947. During the same period, the south-wide advance was 232 per cent and the national gain was 204 per cent. Since 1939, the state has climbed to ninth place in petroleum production. New farm enterprises such as brioler production and growing rice and tung nuts are helping us to develop a more diversified agriculture and are raising farm incomes. On a percentage basis, per capita income payments to individuals have increased nearly twice as much in this state since 1940 as in the nation as a whole.

In the area of social services, our record of progress since the depression years is also impressive. Our primary highways are among the best in the nation. Our hospital building program and our public health services have attracted nationwide attention. Other states have borrowed our idea of persuading doctors to practice in rural areas by means of making loans to medical students who agree to serve rural communities when they complete their training.

Mississippi's BAWI program has attracted nearly 100 new industrial plants to the state by means of financing the erection of suitable facilities which are leased to private business. An even greater number have financed their construction. The new livestock loan program shows promise of expanding livestock production far above the present level. These state government programs for economic development are supplemented with local efforts which have brought about amazing progress in some communities. The Rural Community Development Program of the Tupelo area has revolutionized the economy of the area and stimulated one of the most significant examples in the nation of what a united community can do to raise the level of income and provide better public services.

Mississippians have ample reasons for being proud of our progress during the last fifteen years, but we cannot afford to rest upon our laurels and become satisfied with our achievements. If we expect to make equally significant progress in the years ahead, we must not forget that we still have many serious social and economic problems which must be solved and that the nation and the South are also moving ahead at a rapid pace.

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The state's per capita income is only half the national average which means that the average Mississippian has a far lower material standard of living than the average American citizen. This relatively low per capita income results in a much smaller volume of retail sales per person than the national average. It is also one of the reasons that a majority of our citizens use doctors, dentists and hospitals far less frequently than these services are needed to maintain good health. Another product of our low per capita income is the cost of providing adequate public services in many fields is still beyond our means. Consequently, we have one of the highest rates of illiteracy in the nation, we possess few paved secondary roads, and most of our towns are without adequate sewage disposal facilities.

Mississippi was among the few Southern states which lost population between 1940 and 1950. If we had been able to offer job opportunities and other advantages comparable to the states which attracted 400,000 Mississippians during the decade, it is probable that many of the youth who migrated out of the state would have remained here to repay the costs of rearing and educating them and they would have increased our output of goods and services. A recent report of the Census Bureau indicates that this out-migration is still continuing at such a rapid pace that our high birth rate is unable to compensate for the population loss by migration to other states.

Despite the gains in manufacturing employment during the last decade, only 100,000 Mississippians are employed in manufacturing enterprises and income from manufacturing is a poor fourth among our principal sources of income. We still have an unbalanced economy that is chiefly dependent upon income derived from agricultural enterprises. Consequently, our state's economy is extremely sensitive to sudden changes in the prices of farm commodities and to the caprices of the weather. If another depression should come, it is probable our state will be affected far more adversely than those states which have achieved a better balance of agriculture and industry.

Although we have made considerable progress towards reducing our dependence upon a single cash crop, nearly three-fourths of our farm income comes from cotton. Thus, we still have a long way to go toward the goal of a balanced agriculture.

The above examples are only a few of the numerous problems that we still confront and must solve in order that Mississippians may enjoy the level of living of most Americans.

Man is a social being whose progress is dependent chiefly upon his aspirations, the natural resources in his environment, and his intelligent use of the resources which are available to him.

Fortunately, Mississippi is blessed with a large area of productive land, many non-metallic minerals, abundant rainfall and a long growing season. There is also a large labor force available to convert these natural resources into marketable goods and services.

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Unfortunately, we are not using the resources of the state in ways that would produce the maximum returns and thereby enable our people to achieve a level of living equal to the remainder of the nation. We are growing not more than one third of the potential yield of our forest land. We are producing less than a bale of cotton per acre although our production could be doubled or tripled by wise land use and the application of the scientific knowledge which is already available. More than 5,000,000 acres of the state are idle. We have scarcely touched the clays which have potentialities of which we are not aware. It has been estimated that at least half our farm population is underemployed. These are examples of only a few of our unrealized potentialities.

In addition to falling far short of the level of production which our resources make possible, we have wasted and misused the natural resources of the state on such a gigantic scale that our people have been impoverished by soil erosion and forest depletion. Two thirds of the state has suffered moderate to severe erosion and more than a million acres of land has been ruined for agricultural use. Much land which is suited only for growing timber does not have enough trees to reseed the denuded soil. In a number of counties, people are moving out like rats leaving a sinking ship. If we expect to continue our progress toward a more prosperous state and higher levels of living for our people, we must make wiser use of our resources than we have in the past.

In a democratic society, wise use of resources can become a reality only through (1) extensive research to obtain the answers to numerous problems of resource development and resource management, (2) education of the public to develop the desire to live better and to acquire the "know-how" for using the resources of nature and society in such ways that the maximum returns will be realized by the people of today and by generations yet to come, and (3) individual and group action on local, state and national levels that uses the findings of research which have been disseminated by education for the purpose of achieving higher levels of living. If one or more of these steps is weak or missing, people do not enjoy the level of living that their resources make possible. Their standards of living may even decline to the subsistence level if through ignorance, apathy, or greed they deplete or destroy the God-given natural resources on which their very lives depend. Therefore, we shall examine these links or steps for the purpose of indicating our weaknesses and needs.

One of the major handicaps to the development of Mississippi's resources is the lack of adequate information concerning the nature and extent of the natural resources of the state. For example, soil surveys have been made in less than two-thirds of the counties. Only half the completed surveys have been made recently enough to be reliable sources of information. Up-to-date soil surveys are essential in determining how land can be used more profitably. The Extension Service, the Soil Conservation Service, and other agencies of the state and federal government cannot render maximum assistance to farmers and communities in many counties until more detailed information is available on the soils of those counties and the capabilities of the land. Another example of the need for additional research is associated with the development of the state's mineral resources. Only one-fourth of the counties have had a systematic geological survey. Several industries have failed to establish plants in the state

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because they could not obtain accurate and complete information concerning the location, quantity, and quality of minerals which are found in Mississippi. It is probable that the development of the state's oil resources was delayed many years because of the absence of a comprehensive stratigraphic study.

Since the first essential to the wise use of resources is authentic information, it is urgent that the state made greater efforts to ascertain the nature and extent of the resources of Mississippi and to determine ways these resources may be utilized efficiently for the benefit of the people. Adequate funds must be made available for research by state institutions of higher learning and by state agencies concerned with conservation and resource development in order to achieve these ends. Mississippi's progress toward the goal of balancing agriculture with industry is in a large measure dependent upon extensive research to provide needed information concerning the development and use of the resources of the state.

The second major handicap to the development of Mississippi's resources is that a large number of people neither want to live better nor know how to use available natural resources and social services to improve their level of living. The relatively low educational level of a large percentage of the population and the shortage of skilled workers are well known factors which contribute to this situation; however, many of the more highly educated citizens are only slightly better prepared to use resources wisely than their poorly educated brothers. The latter group's formal schooling has not made them aware of the opportunities in the state and equipped them with the understandings and skills needed to realize the maximum returns from the development of natural resources. The people of Mississippi not only need more education, but they also need the kind of education which will enable them to make wiser use of the resources of the state.

It is axiomatic that a low educational level causes low earning ability. Although the 1950 census indicated that the median number of years of school completed by Mississippi adults was not far below the average of the nation, the relatively high educational level of the white population concealed the low level of the Negroes. Nearly half the state's population is Negro and this racial group constitutes the largest segment of the farm population of the state. In 1950 nearly 223,000 adults 25 years old and over had completed less than five years of school. These people, who constituted nearly one-third of the total labor force, were functional illiterates because they had not progressed far enough in school to read adult literature with comprehension. Thus, nearly one-third of the state's labor force is composed of relatively inefficient, functionally illiterate workers whose incomes are inadequate to provide the minimum essentials of the American standard of living. This situation in turn affects every citizen of the state because a large proportion of the public revenue must be used to provide various governmental services to the low income group who are unable to contribute their share of taxes. Then, too, the low purchasing power of the group affects adversely retail sales and the local market for farm commodities. Finally, this group's lack of skills delays the industrialization of the state and the improvement of farming.

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Public school education programs should meet the responsibility of acquainting all the children and youth of our state with their opportunities and responsibilities in the use of our resources. It is apparent that the people of the state should insist that every educable child attend school and that the schools provide the kind of education that will enable the young people of the state to become efficient workers, wise consumers, and informed citizens. To perform their tasks successfully the schools must have more trained teachers who are aware of the opportunities in the state and who know how to educate young people to make a living and to lead happy, useful lives.

The third major handicap to the development of Mississippi's resources is the fact that we do not have a coordinated program on the state and local levels for the utilization and conservation of the state's resources. Thirteen different state agencies are charged with the task of conserving and developing the natural resources of Mississippi. Consequently, there is no all-over planning which is essential to a sound state-wide program of resource development. Many states, including several in the South, have established departments of conservation to plan and administer a coordinated program of conservation and resource development. The organization and operation of these central agencies is similar to that of our State Department of Health.

Planning is, of course, essential to effecting a resource-use program. Although the pioneer work of the State Planning Commission stimulated an interest in resource development and laid the foundation for action programs such as the BAWI Plan, the need for coordinated planning has not passed. Technological developments, shifts in demand for commodities and services, and changes in national and international economic policies are felt in Mississippi and necessitate adjustments which may be facilitated through coordinated planning and group action.

Of one thing we are certain: organized communities can lead the way. In Mississippi we have several examples of people in a community getting together to discuss their problems, formulate a plan of action, and carry out a program for community improvement. An excellent example of people getting together to solve problems associated with utilization of resources is found in Tupelo and five counties in the trade area. Several years ago leading businessmen in Tupelo recognized that the prosperity of the town was dependent upon the income of the surrounding farming area. They were also aware that farmers needed to diversify farm enterprises in order to raise their level of income. Through able leadership and community organization means were found to help farmers start new farm enterprises. Among the outcomes of this program are a higher level of living in the rural area, new industries and processing plants, a larger volume of retail trade, and better understanding between town people and rural residents. Other communities in the state have also attacked their problems through united community effort and have achieved marked success.

The people of a community or of a state can live better if they have the resources, the desire and the "know-how". Mississippi is blessed with the resources to achieve a level of living far beyond any that we have known. We need only to create desire for higher levels of living among all segments of

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our population and to equip them with the knowledge and skills which are required to achieve more efficient use of the resources of this state.

We shall continue to move forward at a rapid pace if we utilize our resources wisely, but in order to realize the maximum returns from the bounty of nature we must (1) support needed research, (2) provide adequate educational opportunities for all our children and youth, and (3) apply available knowledge to the solution of our resource-use problems.

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ACTIVITIES

NEW HEALTH RESEARCH PROJECT. — The division of sociology and rural life has just initiated a three year project sponsored by the Health Information Foundation involving a study of the impact of saturation-level prepayment voluntary hospital and medical insurance on the health organization of a community. The project, which has grown out of a series of health studies undertaken in the last several years by the division of sociology and rural life under the agricultural experiment station, is under the leadership of Dr. Marion T. Loftin. The project will include among its specialists Dr. Gordon K. Bryan, of the department of history and government. The study is under the supervision of the agricultural experiment station, with the social science research center cooperating.

FACULTY SEMINAR ON STATISTICS IN SOCIAL RESEARCH. — A voluntary faculty seminar designed to promote professional improvement in various areas germane to research in the social sciences has recently been organized by the social science research center. The first area of study chosen by the group is that of social statistics. Dr. T. A. Kelly has agreed to serve as lecturer during this phase of the group's studies. The seminar includes three members of the history and government department and four members of the division of sociology and rural life.

GENERAL EDUCATION CONFERENCE. — The third annual conference on general education in Mississippi will be held at Mississippi Southern College, August 26-30. Dr. John K. Bettersworth will serve as chairman of the social science group for this meeting. He has served in that capacity for the two previous years, with Dr. Joseph James of M. S. C. W. as co-chairman. The conference at Hattiesburg will attempt to discover ways and means for implementing a program already outlined for setting up specific general education causes that may be adopted experimentally in the state colleges.

SOCIAL SCIENCE ROUND TABLE. — The final meeting of the spring series of social science round table was held on May 4 in the cafeteria with 95 persons present. Dr. T. Harry Williams, well known author and professor of history at Louisiana State University, was guest speaker. His subject was "Yankees and Rebels — Friendly Enemies." The lecture was sponsored by the department of history and government.

MISSISSIPPI COMMUNITY SURVEY PUBLISHED. — A Survey of County Organizations in Mississippi has just been published by the Social Science Reseach Center, with Professor A. A. Fanelli as author, assisted by Raymond Payne. The study contains an exhaustive description of the various community organizations existing in the state as of December, 1952, and attempts to evaluate the characteristics and attitudes of these groups. Copies are available at the Research Center office. Two publications based on the data collected for this study appeared earlier from the agricultural experiment station. They were an article in Farm Research, entitled "A Survey of County Organizations in Mississippi,"

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and agricultural experiment station circular, No. 183, entitled County Organizations in Mississippi. Raymond Payne, assisted by A. A. Fanelli, were the authors of the earlier study.

KAUFMAN RETURNS. — Dr. Harold F. Kaufman has returned to resume his duties at Mississippi State College as Thomas L. Bailey professor and head of the department of sociology and rural life. He is also associate chairman and research coordinator for the Social Science Research Center. He was on leave during the winter serving as visiting lecturer at Columbia University. While there he provided leadership for organizing a new research program for graduate students in the department of sociology.

"I observed growing interest in the development of social sciences in the South," Dr. Kaufman said. "Especially strong was the concern for the cooperative social science programs in this region."

COLLEGE HISTORY PUBLISHED. — On July 1 the University of Alabama Press released for general sale the first copies of Peoples' College: A History of Mississippi State, by John K. Bettersworth. The volume, which consists of 471 pages of text and twenty pages of illustrations, sells for $4.75, and will be sent prepaid by the University of Alabama Press, University, Alabama. Dr. Bettersworth has been invited to be at the Office Supply Company in Jackson from 2-4 P.M., Thursday, July 16, to autograph copies of the book.

CAIN COMPLETES 41 YEARS OF TEACHING. — Professor Cain is completing 41 years of teaching. He taught in Smith, Leake, Sharkey, Bolivar, and Walthall counties after finishing his sophomore year at Millsaps College. He first enrolled at State, then Mississippi A & M, as a summer school student in 1918. In the fall of 1921 he enrolled as a junior, and in 1923 he received his B. S.; and in 1924, his M. S. In 1928 he received his M. A. in psychology from Cornell. In 1924 he became assistant professor in the department of education in the School of Agriculture. At that time State had no School of Education, and Professor Cain taught all the psychology and general education courses taken by the agricultural education students for many years; in fact, until 1936, when Sam Hathorn became dean of the newly established School of Education. Professor Cain has made a hobby of studying the history of southeastern Mississippi and the genealogy of Sons of the American Revolution. He has written the first volume of "Four Centuries on the Pascagoula River," which is being published this month by Thomas J. Moran and Sons of New Orleans. Professor Cain is also the author of "Flags Over Mississippi," a booklet printed in color. In this he shows that seven national flags have flown over Mississippi territory: Spanish, French, British, West Florida, Mississippi, Confederate, and American. As historian for the Sons of the American Revolution in Mississippi, Professor Cain compiled the first directory, which gives the Mississippi members of the organization between 1909 and 1949. In 1951 he revised the directory to bring it up to date. These directories not only list the members, but also trace their ancestry back to their Revolutionary War forebears. Professor Cain himself is descended from at least four participants in the Revolutionary War. He has served for two

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years as vice president of the Southern District of the Sons of the American Revolution, and for the past year he has been on the national executive committe of this organization.

ELLZEY VISITING LECTURER. — Professor W. Clark Ellzey of the Stephens College Division of Home and Family has returned as a visiting staff member of the graduate homemaking education department at Mississippi State College. According to Miss Esther Segner, head of this department, Professor Ellzey was invited to return by popular request of homemaking teachers in the state. He is teaching a course in family relationships to a group of 24 educators, mostly homemaking teachers. Professor Ellzey has also been invited to serve as consultant to a workshop sponsored by Dr. S. A. Brasfield, director, Division of Instruction, State Education Department. Miss Eleanor M. Zeis, state supervisor, Occupational Information and Guidance, will be chairman of the workshop activities, the purpose of which will be to prepare a bulletin on "Home and Family Life Education" for both boys and girls in the high schools of Mississippi. The workshop will be held at State June 29-July 3. Professor Ellzey has been on the Stephens faculty nine years. He holds degrees from Southeast Missouri State College and Duke University. For several years, Mr. Ellzey was director of the Western Branch of Marriage and Family Council, Inc., and directed a boy's camp in Texas 14 years. He is former chairman of the Mass Media Section of the National Council of Family Relations and at present is secretary of the council. He is a member of the board of managers of the Joint Department of Family Life for the National Council of Churches and of the Methodist National Committee on Family Life.

HOME AND FAMILY LIFE CONFERENCE. — A five-day conference on Home and Family Living was held at Mississippi State College the first week in July. Called by S. A. Brasfield, director of instruction, State Department of Education, the conference prepared material for a high school course in family living. The plan is to mimeograph the material prepared by the conference to be used as a textbook in Mississippi high schools next fall. The course is designed for boys and girls of advanced high school age, and particularly for those about to assume family responsibilities. W. L. Rigby, assistant superintendent of schools, Gulfport, presided at the conference. Professor W. Clark Ellzey of Stephens College, Columbia, Missouri, served as consultant, and Miss Eleanor M. Zeis, state superintendent of occupational information, as coordinator.

SCHOOL ADMINISTRATORS MEET. — Public school administrators and school board members from all part of Mississippi gathered at Mississippi State College Wednesday, June 17, for their sixth annual conference. The one-day program featured two short talks and two panel discussions. Dr. W. H. Barnard, professor of general education at State College, welcomed the group at 10 A. M. in the library auditorium. Dr. C. W. Wells of Canton, president of the Mississippi School Board Association, presented a "Report of Growth and Dreams" of the association. B. P. Brooks, dean of the School of Education here, spoke on "School Accrediation." Topic for the morning panel was "Good and Bad Practices in Selecting the School Personnel." Leading the discussion were Dale

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Davidson, superintendent of schools at Ackerman; A. L. Hannah, superintendent of schools at Cascilla; J. T. Steele, chairman of the school board of Starkville; and Forest Peay, former school trustee at Maben. The afternoon panel considered "Reorganization of School Districts and Financing the Program for all the Children of the District." Leaders were C. L. Lewis, superintendent of schools at Amory; G. J. Cain, State Department of Education, Jackson; J. W. Cunningham, superintendent of schools in Winston County, Louisville; Gycelle Tynes, superintendent of West Tallahatchie School; and Ovin Ray, superintendent of schools at Arkabutla. A summary of the conference was given by J. A. Carpenter, superintendent of schools at Okolona.

COLLEGE HAS INCUNABULUM. — A Greek history printed in 1499 has become the first incunabulum in the Mississippi State College library. The rare volume was given to the library by the family of the late Major William Starling of Greenville in a collection of books weighing nearly three tons. Director of Libraries Donald Thompson said the date of the oldest book was discovered as the books were being sorted out for cataloging. This incunabulum is the first edition of Suidas' Greek Lexicon and was printed in Milan, Ilaly, in November, 1499. Few facts are known about Suidas, but he is mentioned often in Commentary on Homer by Eustathius. The Mississippi State library has the Froben, Basle edition of this work published in three volumes in 1560. Suidas is believed to have done his writing between 900 and 1025 A. D.. The Lexicon is a dictionary of records in alphabetical order, giving names of persons and places and extracts from ancient Greek writers. Dr. Harold Snellgrove, associate professor of history at State, pointed out that the volume is valuable "for the literary history of antiquity, for the explanation of words, and for the citations from many ancient writing." Printed in Greek, the book has clear and attractive type. It is generally in good condition except for some water damage to the thick binding and first few pages. Demetrius Chalcondyles, a Greek grammarian who was born at Athens around 1424, edited the book. After the capture of Constantinople by the Turks in 1453, Chalcondyles was one of the Greek refugees who migrated to Italy and who contributed most to the revival of classical Greek literature. Chalcondyles taught for 20 years at Florence before going to Milan. His principal work is a Greek grammar published in 1493. He also directed the first edition of Homer at Florence in 1488 and the first edition of Isocrates at Milan in 1493.

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